**WHAT IS CLAIMED IS**:

1. A nanotube having a substantially uniform coating of diamond or diamond-like carbon, said coating of the nanotube having a thickness ranging from about 10 nm to about 100 nm.

2. The nanotube according to Claim 1 wherein the coating thereon ranges from about 20 to about 50 nm.

3. The nanotube according to Claim 1 wherein the nanotube is coated with diamond.

4. The nanotube according to Claim 3 wherein the grain size of the diamond range from about 20 to about 60 nm.

5. The nanotube according to Claim 1 wherein the nanotube is coated with carbon like diamond.

6. The nanotube according to Claim 1 which is a multi-walled nanotube.

7. The nanotube according to Claim 1 which is a single walled nanotube.

8. The nanotube according to Claim 1 which is a double walled nanotube.

9. A field emission cathode in a electron field emitter comprised of a substrate, nanotubes coating the substrate and a substantially uniform coating of diamond or diamond like carbon on the nanotubes, said diamond and diamond-like carbon having a negative electron affinity being present in an amount to sufficiently retard the evaporation of carbon from the nanotubes when the cathode is utilized in electron field emission.

10. The field emission cathode according to Claim 9 wherein a binder is additionally present and mixed with said nanotubes.

11. The field emission cathode according to Claim 9 wherein the thickness of the diamond or diamond-like coating on the nanotube ranges from about 10 nm to about 100 nm.

12. The field emission cathode according to Claim 11 wherein the thickness of the diamond or diamond-like coating on the nanotube ranges from about 20 to about 50 nm.

13. The field emission cathode according to Claim 9 wherein the nanotubes are coated with diamond.

14. The field emission cathode according to Claim 13 wherein the grain size of the diamond ranges from about 20 to about 60 nm.

15. The field emission cathode according to Claim 9 wherein the nanotubes are coated with diamond-like carbon.

16. The field emission cathode according to Claim 9 wherein the nanotubes are multi-walled.

17. The field emission cathode according to Claim 9 wherein the nanotubes are single walled.

18. The field emission cathode according to Claim 9 wherein the nanotubes are double walled.

19. A cathode ray tube having the field emission cathode of any one of Claims 9-18.

20. A method of enhancing the electron field emission from an electron field emitter having a cathode comprised of nanotubes coating a substrate, said method comprising substantially uniformly coating the nanotube with an enhancing electron field emission effective amount of either diamond or diamond-like carbon.

21. The method according to Claim 20 wherein the thickness of the diamond or diamond-like coating on the nanotubes ranges from about 10 nm to about 100 nm.

22. The method according to Claim 21 wherein the thickness of diamond or diamond-like coating on the nanotube ranges from about 20 nm to about 50 nm.

23. The method according to Claim 20 wherein the nanotubes are coated with diamond.

24. The method according to Claim 23 wherein the grain size of the diamond range from about 20 nm to about 60 nm.

25. The method according to Claim 24 wherein the thickness of the coating ranges from about 10 nm to about 100 nm.

26. The method according to Claim 25 wherein the thickness of the coating ranges from about 20 nm to about 50 nm.

27. The method according to Claim 20 wherein the nanotubes are single walled.

28. The method according to Claim 20 wherein the nanotubes are double walled.

29. The method according to Claim 20 wherein the nanotubes are multi-walled.

30. A method for retarding the evaporation of carbon from an electron field emitter containing a cathode in which the cathode is comprised of carbon nanotubes, which method comprises coating the nanotubes with a carbon evaporating inhibiting effective amount of either diamond or diamond-like carbon.

31. The method according to Claim 30 wherein the thickness of the diamond or diamond-like coating on the nanotubes ranges from about 10 nm to about 100 nm.

32. The method according to Claim 31 wherein the thickness of diamond or diamond-like coating on the nanotube ranges from about 20 nm to about 50 nm.

33. The method according to Claim 30 wherein the nanotubes are coated with diamond.

34. The method according to Claim 33 wherein the grain size of the diamond ranges from about 20 nm to about 60 nm.

35. The method according to Claim 34 wherein the thickness of the coating ranges from about 10 nm to about 100 nm.

36. The method according to Claim 35 wherein the thickness of the coating ranges from about 20 nm about 50 nm.

37. The method according to Claim 30 wherein the nanotubes are single walled.

38. The method according to Claim 30 wherein the nanotube is double walled.

39. The method according to Claim 29 wherein the nanotubes are multi-walled.

40. A nanotube as defined in Claim 1 wherein the diamond or diamond-like carbon is comprised essentially of diamond produced fullerenes.

41. A nanotube as defined in Claim 1 wherein the diamond or diamond-like carbon is comprised essentially of diamond produced by the vapor deposition of fullerenes.

42. A field emission cathode as defined in Claim 9 wherein the diamond or diamond-like carbon is comprised essentially of diamond produced from fullerenes.

43. A field emission cathode as defined in Claim 9 wherein the diamond or diamond-like carbon is produced by the vapor deposition of fullerene.

44. The method of Claim 30 wherein the diamond or diamond-like carbon is comprised essentially of diamond produced from fullerene.

45. The method of Claim 30 wherein the diamond or diamond-like carbon is produced by the vapor deposition of fullerene.

46. A method of forming a field emission cathode structure comprising a substrate having a nanotube field emission cathode affixed thereto that comprises coating the field emission surface of said nanotube cathode with a diamond or diamond-like carbon having a negative electron affinity in an amount effective to retard evaporation of carbon from the coated surface of said nanotube.

47. The method of Claim 46 wherein said diamond or diamond-like carbon coating is present in an amount effective to retard evaporation of carbon from the coated surface of said nanotube when located in an electron field emitter.

48. The method of Claim 47 wherein the electron field emitter is a CRT.

. A method of forming a field emission cathode structure comprising a substrate having a nanotube field emission cathode affixed thereon, wherein said nanotube is affixed to the substrate by depositing the nanotube on the substrate, in situ, during the process of forming the nanotube in a carbon vaporizing process wherein the nanotube is formed by condensation of vaporized carbon in a nanotube forming atmosphere prior to its deposition on the substrate.